CLAIMS

What is claimed is:

1. An system for synchronizing data between a first system and a second system, comprising:

a first sync engine on the first system interfacing with data on the first system to provide difference information;

a data store coupled to network and in communication with the first and second systems; and

a second sync engine on the second system coupled to receive the difference information from the data store via the network, and interfacing with data on the second system to update said data on the second system with said difference information.

2. The apparatus of claim 1 wherein the first system and second system are coupled to the server via a private network.

3. The apparatus of claim 1 wherein the first system and second system are coupled to the server via an Internet connection.

4. The apparatus of claim 1 wherein the difference information is transmitted to the data store by the first sync engine and received from the data store from the second sync engine.

5. The apparatus of claim 4 wherein the difference information is transmitted to the data store at a first point in time, and received from the data store at a second, subsequent point in time.

6. The apparatus of claim 1 wherein said second sync engine interfaces with said data on the second system to provide second difference information to the data store.

7. The apparatus of claim 6 wherein the first sync engine couples to the data store to retrieve the second difference information and interfaces with the data on the first system to update said data on the first system with said second difference information.

8. The apparatus of claim 1 further including a management server coupled to the network and in communication with the first sync engine, the second sync engine and the data store.

9. The apparatus of claim 8 wherein said management server authorizes access of difference information on the data store by the first and second sync engines.

10. The apparatus of claim 8 wherein said management server locks access to difference information on the data store during communication with the first and the second sync engines.

11. The apparatus of claim 1 further including a first device, coupled to the first system via the network, providing said data to the first system.

12. The apparatus of claim 11 wherein the first system is a sync

2   server.

1   13.   The apparatus of claim 11 wherein said data comprises

2   changes to a previous state of the data, and said difference information

3   comprises said changes in an encoded, universal format.

1   14.   The apparatus of claim 1 wherein said sync engine

2   comprises:

3   a data interface;

4   a copy of a previous state of said data; and

5   a difference transaction generator.

1   15.   The apparatus of claim 1 wherein said data on said first

2   system comprises application data having a plurality of application specific

3   formats, and said difference information is provided for each of said

4   formats in a universal format to said data store.

1   16.   The apparatus of claim 1 further including:

2   a plurality of sync engines on a respective plurality of systems, each

3   of said plurality of engines being coupled to receive difference information

4   from each of said first, second and plurality of sync engines from the data

5   store via the network, and each said engine interfacing with data on the

6   system on which it resides to update said data on said system on which it

7   resides with said difference information, and interface with data on said

8   system on which it resides to provide difference data information from the

9   system on which it resides to the data store.

1   17.   A system, comprising:

2   a first device including at least a first data file and first differencing

3   code having an input and an output coupled to a network to receive first

4   device data change transactions, based on said at least one data file, from

5   and provide change transactions to, said network;

6   a data store coupled to the network having at least one data

7   structure coupled to store change transactions; and

8   a second system including at least a second data file and second

9   differencing code having an input and an output coupled to the network to

10   receive said first device data change transactions, and provide second

11   change transactions based on said at least second data file to said data

12   store.

1   18.   The apparatus of claim 17 wherein the first device and

2   second device are coupled to the data store via an Internet connection.

1   19.   The apparatus of claim 17 wherein the first change

2   transactions are transmitted to the data store by the first device at a first

3   point in time and received from the data store by the second device at a

4   second, subsequent point in time.

1   20.   The apparatus of claim 17 wherein the first differencing code

2   receives second change transactions from the data store to and interfaces

3   with at least the first data file on to update said data with said second

4   change transactions.

1   21.   The apparatus of claim 17 further including a management

2   server coupled to the network and in communication with the first sync

3   engine, the second sync engine and the data store.

1   22.   The apparatus of claim 17 wherein said management server

2   authorizes access of difference information on the data store by the first

3   and second differencing code.

1   23.   The apparatus of claim 17 wherein the first device is a sync

2   server.

1   24.   The apparatus of claim 17 wherein said differencing code

2   comprises:

3   an application object;

4   an application object store; and

5   a delta engine.

1   25.   A method for synchronizing at least a first and a second

2   resident on a first and a second systems, respectively, coupled to the

3   Internet, respectively, comprising:

4   determining difference data resulting from changes to the first file

5   on the first system;

6   transmitting the difference data to a server via the Internet;

7   querying the server from a second system to determine whether

8   difference data exists for files on the second system;

9   retrieving the difference data to the second system; and

10   updating the second file on the second system with the difference

11   data.

1   26.   The method of claim 25 wherein said step of determining

2   comprises:

3   comparing a current instance of the first file to a stored instance of

4   the first file; and

5   generating said difference data.

1   27.   The method of claim 25 wherein said step of querying

2   comprises:

3   coupling to a management server which provides information on a

4   state of said difference data for files on the first system and the second

5   system.

1   28.   The method of claim 25 wherein said step of retrieving

2   comprises:

3   coupling to the management server;

4   receiving authorization from the management server to retrieve the

5   difference data;

6   transmitting a request to the server for the difference data; and

7   receiving the difference data in response to the request.

1   29.   The method of claim 28 wherein the management server

2   locks the server from receiving further requests for the difference data

3   during said retrieving step.

1   30. The method of claim 25 wherein said step of updating

2 comprises:

3   applying the difference data to a stored instance of the second file

4 on the second system.

1   31. An Internet synchronization system, comprising:

2   a storage server having an Internet connection;

3   a first device coupled to the Internet and including a device sync

4 engine; and

5   a second device coupled to the Internet and including a second

6 device sync engine.

1   32. The Internet synchronization system of claim 31 further

2 including:

3   a management server.

1   33. The Internet synchronization system of claim 32 wherein the

2 storage server and the management server are provided in a data center.

1   34. The Internet synchronization system of claim 31 wherein

2 communications between the first device, the second device and the

3 storage server are encoded and compressed.

1   35. The Internet synchronization system of claim 31 wherein data

2 transfer between the first device, the second device and the storage server

3 comprises difference transactions.

1   36.   The Internet synchronization system of claim 31 wherein

2 each device includes applications having data in an application specific

3 format, and wherein communication between the first device, the second

4 device and the storage server include changes to said data in an

5 application independent format.

1   37.   The Internet synchronization system of claim 31 wherein

2 each device sync engine comprises:

3   an application object;

4   an application object store; and

5   a delta engine.